FINDING OF NO SIGNIFICANT IMPACT

PROPOSED INCREASE OF U.S. BORDER PATROL
AIRBOAT PATROLS ON THE RIO GRANDE
DEL RIO SECTOR, TEXAS

PURPOSE AND OBJECTIVE: The primary purpose of the proposed action is to deter illegal crossings at their point of origin thereby avoiding unnecessary drowning deaths of illegal immigrants. Rescue of illegal aliens would also be provided in the event deterrence is not achieved. The US Border Patrol (USBP) Del Rio Sector is currently operating two airboats. However, because of the length of the river reach (approximately 205 miles) and the conditions of the river, the river cannot be effectively patrolled by only two airboats.

PROPOSED ACTION: The Proposed Action is to purchase and operate an additional six airboats within the Del Rio Sector.

ALTERNATIVES: Alternatives carried forward for analysis in the EA include the No Action and the Proposed Action described above. The No Action would not satisfy the need to increase the number of airboat patrols considered necessary to provide a more effective river patrol and reduce the number of drowning deaths. Of the alternatives considered, the Proposed Action would be the most cost efficient and strategically effective approach to increasing patrols on the river. Other alternatives considered but eliminated from further evaluation included increased land patrols, use of aerial surveillance, and use of other types of boats.

ENVIRONMENTAL CONSEQUENCES: Increasing the number of airboats and river patrols would occur within the Del Rio Sector currently being patrolled by two airboats. Thus, this increase is not expected to result in significant adverse effects to the natural or human environment.

Based upon the results of the EA, it has been concluded that the Proposed Action will not have a significant adverse effect on the environment and no further NEPA documentation is warranted.

Richard J. Diefenbeck
Director
INS Headquarters Facilities and Engineering Division

6-13-01
Date

EXECUTIVE SUMMARY

PROPOSED ACTIONS:

This Environmental Assessment (EA) addresses the potential effects, beneficial and adverse, of the proposed increase of U.S. Border Patrol (USBP) airboat patrols on the Rio Grande River within the Del Rio Sector, Texas.

PURPOSE AND NEED:

Due to stringent enforcement operations in the McAllen and El Paso Sectors, increasing number of illegal immigrants and drug traffickers have shifted their attempts to the Del Rio Sector AOR. On the average, approximately 14,500 attempts to illegally enter the U.S. within the Del Rio Sector AOR are made. Even with the increase of water and land patrol efforts, the USBP estimates that almost 100,000 aliens successfully entered the U.S. illegally last year. Within the Del Rio Sector, there are still seven known smuggling organizations that attempt to move their contraband across the Rio Grande on a daily basis.

In their attempts to illegally cross the border, many aliens have been fatally injured. Since Fiscal Year (FY) 1998, the number of illegal alien deaths within the Del Rio Sector has increased from 35 to 49 in FY 2000, a 40 percent increase. About 28 percent of the total deaths (118) of illegal immigrants in the past three years have been caused by drowning while attempting to cross the Rio Grande.

The purpose and need for this project is to increase patrols on the river in order to deter illegal crossings at their point of origin. Such patrols would also serve the purpose of avoiding unnecessary drowning deaths by deterring the illegal activity and/or providing rescue of illegal aliens.

ALTERNATIVE ADDRESSED:

The no action alternative would allow and maintain the status quo of the river patrolling efforts. The patrols include two airboats (a 1998 16-foot aluminum hull and a 1999 19-foot aluminum hull) that are currently used to patrol the 205 river miles. These patrol efforts include an average of 10 river trips per month, each with duration of about six hours. The average speed of the airboats ranges from 15 to 25 miles per hour (mph), depending upon the river conditions and urgency of a response. No nighttime operations are currently performed.

ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION:

The proposed action would involve increasing the number of airboat patrols along the Rio Grande River to six airboats. This is a large area and should have no significant adverse effects to air quality, water quality, cultural resources, soils, protected species, or land use as a result of the proposed action.

CONCLUSIONS:

Based on the findings of this analysis, no significant adverse impacts would occur from the proposed action. Increased or enhanced interdiction of illegal and drug entry and activities would have positive, indirect socioeconomic benefits.

ENVIRONMENTAL ASSESSMENT FOR THE AIRBOAT PATROLS ON THE RIO GRANDE RIVER, DEL RIO SECTOR, TEXAS

June 2001

Lead Agency:	U.S. Immigration and Naturalization Service Facilities and Engineering Division Washington, D.C.
Responsible Official:	Mr. Eric Verwers INS A/E Resource Center 819 Taylor Street Room 3A28 Ft. Worth, TX 76102

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

SECTION 1.0
INTRODUCTION

1.0 INTRODUCTION

This Environmental Assessment (EA) addresses the potential effects, beneficial and adverse, of the proposed increase of U.S. Border Patrol (USBP) airboat patrols on the Rio Grande River within the Del Rio Sector, Texas.

1.1 BACKGROUND

The U.S. Immigration and Naturalization Service (INS) has the responsibility to regulate and control immigration into the United States. The INS has four major areas of responsibility: 1) facilitate entry of persons legally admissible to the United States, 2) grant benefits under the Immigration and Nationality Act (INA), including assistance to persons seeking permanent resident status or naturalization, 3) prevent unlawful entry, employment or receipt of benefits, and 4) apprehend or remove aliens who enter or remain illegally in the United States. In regards to the latter responsibility, the U.S. Congress in 1924 created the USBP to be the law enforcement arm of the INS. The USBP's primary function is to detect and deter the unlawful entry of aliens and smuggling along the nation's land borders and ports-of-entry (POE). With the increase in illegal drug trafficking, the USBP also has become the leader for drug interdiction between the POEs.

Since 1980, an average of 150,000 immigrants have been naturalized every year. At the same time, however, illegal aliens have become a significant issue. INS apprehension rates are currently averaging more than 1.5 million illegal aliens throughout the country. The INS estimates that there are currently from three to six million illegal aliens in the United States. Other studies have indicated higher numbers, closer to 10 million.

The USBP field activities are administered under the Field Operations Division. As mentioned previously, the USBP's primary function is to detect and prevent the unlawful entry of aliens and smuggling along the nation's borders. With the increase in illegal drug trafficking, the USBP also has assumed a major Federal responsibility for illegal drug interdiction.

1.2 LOCATION OF PROPOSED ACTION

The proposed action would occur along the Rio Grande within the Del Rio Sector's (Texas) Area of Responsibility (AOR). The AOR for the Sector along the Rio Grande extends from the Terrell County/Val Verde County line downstream to the Maverick County/Webb County line (Figure 1-1). Five USBP Stations are responsible for patrolling this reach of the river: Comstock, Del Rio, Brackettville, Eagle Pass, and Carrizo Springs.

1.3 PURPOSE AND NEED

Due to stringent enforcement operations in the McAllen and El Paso Sectors, increasing number of illegal immigrants and drug traffickers have shifted their attempts to the Del Rio Sector AOR. On the average, approximately 14,500 attempts to illegally enter the U.S. within the Del Rio Sector AOR are made. Tables 1-1 and 1-2 present illegal alien apprehension and drug seizure statistics, respectively, for the past five years.

Table 1-1

Illegal Alien Apprehensions within Del Rio Sector (1996-2000)

Fiscal Year (FY)	Apprehensions
2000	157,178
1999	156,653
1998	131,058
1997	113,280
1996	121,137

Table 1-2

Drug Seizures within the Del Rio Sector (1996-2000)

Fiscal Year	Marijuana (lbs)	Cocaine (lbs)	Drug Value ($)
2000	49,045	1,875	98,639,148
1999	35,468	59	34,043,655
1998	41,066	883	67,619,431
1997	34,850	214	36,519,509
1996	67,140	805	79,360,498

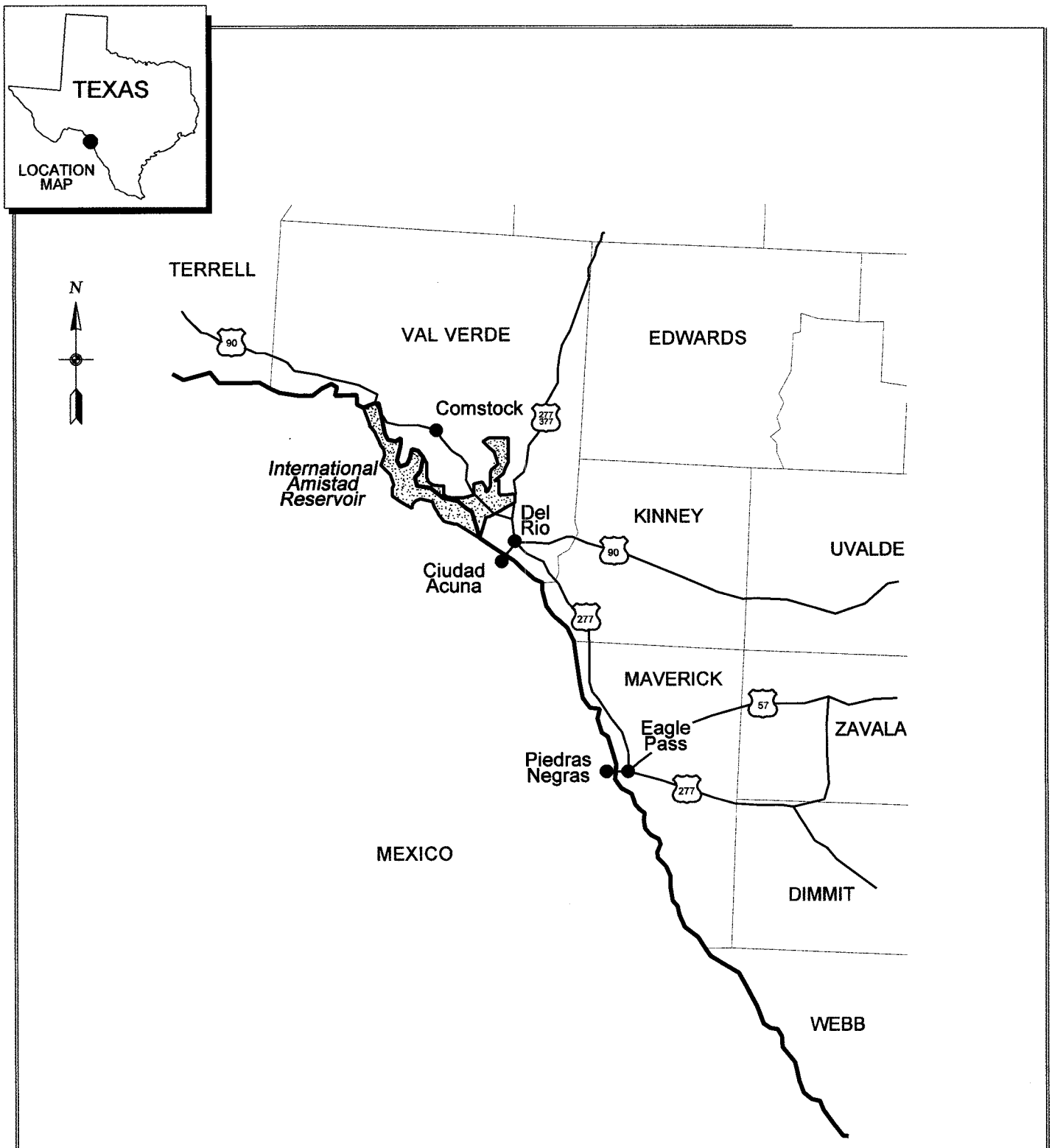

Figure 1-1: Project Location Map

gsrc/ GULF SOUTH RESEARCH CORPORATION

SCALE: not to scale

DATE: June 2001

Even with the increase of water and land patrol efforts, the USBP estimates that almost 100,000 aliens successfully entered the U.S. illegally last year. Within the Del Rio Sector, there are still seven known smuggling organizations that attempt to move their contraband across the Rio Grande on a daily basis.

In their attempts to illegally cross the border, many aliens have been fatally injured. Since Fiscal Year (FY) 1998, the number of illegal alien deaths within the Del Rio Sector has increased from 35 to 49 in FY 2000, a 40 percent increase. About 28 percent of the total deaths (118) of illegal immigrants in the past three years have been caused by drowning while attempting to cross the Rio Grande.

The Del Rio Sector is responsible for patrolling over 205 river miles of the Rio Grande. Two airboats are currently used by the Sector to assist in patrolling the river. However, because of the length of the river reach and the conditions of the river (shallow, thick aquatic vegetation, and meandering), the river cannot be effectively patrolled by only two airboats. This is evidenced by the fairly consistent and relatively high number of drowning deaths during the past three years.

In addition, most of the riverbank along this reach is heavily vegetated, which limits the USBP agents' view of the river; thus, more often than not, the agents are unaware of an attempt to cross the river until the illegal aliens/drug smugglers are on the U.S. side. The purpose and need for this project is to effect patrols on the river in order to deter illegal crossings at their point of origin. Such patrols would also serve the purpose of avoiding unnecessary drowning deaths by deterring the illegal activity and/or providing rescue of illegal aliens.

1.4 APPLICABLE ENVIRONMENTAL STATUTES AND REGULATIONS

This abbreviated EA was prepared by the U.S. Army Corps of Engineers (USACE), Fort Worth District, INS Architect-Engineer Resource Center (AERC), in accordance with, but not limited to the National Environmental Policy Act of 1969 (NEPA); Endangered Species Act (ESA) of 1973, as amended; the National Historical Preservation Act of 1966, as amended; the Archaeological and Historical Preservation Act of 1974, as

amended; Executive Order (E.O.) No. 11593, "Protection and Enhancement of the Cultural Environment"; E.O. No. 11988, "Flood Plain Management"; E.O. No. 11990, "Protection of Wetlands"; and E.O. No. 12898 "Federal Actions to Address Environmental Justice." Table 1-3 summarizes the pertinent environmental requirements that guided the development of this abbreviated EA.

Table 1-3

Applicable Environmental Statutes and Regulations

Federal Statutes
Archaeological and Historical Preservation Act
Clean Air Act, as amended
Clean Water Act, as amended
Endangered Species Act, as amended
Migratory Bird Treaty Act
National Historic Preservation Act, as amended
National Environmental Policy Act, as amended
Watershed Protection and Flood Prevention Act
Wild and Scenic Rivers Act, as amended
Farmland Protection Policy Act
Native American Graves Protection and Repatriation Act
Executive Orders, Memorandums, etc.
Floodplain Management (E.O. 11988)
Protection of Wetlands (E.O. 11990)
Federal Actions to Address Environmental Justice to Minority Populations and Low-Income Populations (E.O. 12898)
Protection of Migratory Birds & Game Mammals (E.O. 11629)

SECTION 2.0
DESCRIPTION OF PROPOSED ACTION AND NO ACTION ALTERNATIVE

2.0 DESCRIPTION OF PROPOSED ACTION AND NO ACTION ALTERNATIVE

This section of the abbreviated EA discusses the alternatives considered that would satisfy the purpose and need of patrolling the river to deter illegal crossings and reduce the number of drowning deaths. Several alternatives were considered; however, only the proposed action alternative and the no action alternative are carried forward for impact analysis. The alternatives eliminated from detail study are current practices used by the USBP to perform their mission of control of the border. However, they did not meet the purpose and need for this action. The reasons for their elimination are presented in Section 2.3, below.

The proposed action involves increasing the total number of airboats used to patrol the Rio Grande from two to eight. The additional six airboats would allow for improved response time and maintenance schedule. Operational criteria relevant to the needs and objectives of the proposed action include:

1. Minimize loss of life due to illegal aliens attempting to cross the Rio Grande
2. Increase deterrence of illegal attempts to cross the Rio Grande
3. Provide emergency response capabilities during inclement weather
4. Minimize adverse impact to riparian vegetation that is inherent with pursuit and apprehension efforts along the riverbanks

2.1 NO ACTION ALTERNATIVE

The no action alternative would allow and maintain the status quo of the river patrolling efforts. As indicated previously, two airboats (a 1998 16-foot aluminum hull and a 1999 19-foot aluminum hull) are currently used to patrol the 205 river miles. These patrol efforts include an average of 10 river trips per month, each with duration of about six hours. The average speed of the airboats ranges from 15 to 25 miles per hour (mph), depending upon the river conditions and urgency of a response. No nighttime operations are currently performed.

USBP airboat operators must be certified to operate the airboats and must receive re-certification every two years. All safety equipment (e.g., personal flotation devices, trauma

kits, fire extinguishers, life rings, etc.) is carried on each boat and is checked by the airboat operator prior to each launching.

The airboats operate on the U.S. side of the Rio Grande only. Response to emergencies on the Mexican shoreline is authorized only after notification to the Mexican authorities. Once illegal immigrants are apprehended or rescued, land based units respond immediately to the airboat operators' requests for alien transport and other assistance.

The no action alternative would continue the airboat patrols at the same level and would require the continued or increased level of vehicular patrols to detect, deter and apprehend the illegal aliens and drug traffickers. The no action alternative would not satisfy the purpose and need to provide a more effective river patrol and to reduce the number of drowning deaths, but it is carried forward for analysis, as required by NEPA and CEQ.

2.2 PROPOSED ACTION

The proposed action is to purchase and operate an additional six airboats. This action would increase the number of airboats operated by the Del Rio Sector to a total of eight. While the average speed of the airboats would be maintained at 15-25 mph, the speed of the response time to illegal entry attempts would be much greater since there would be more airboats on the river. Daily river trips would be made by all eight airboats, except when repair and maintenance actions are required. It is expected that each boat would be out of operation for one week per year for repairs and maintenance.

Each airboat will carry 40 to 80 gallons of gasoline on board during patrols. Spill containment equipment (e.g., oil mops) will also be contained on board in the event of accidental spills.

No additional boat ramps would be required to accommodate the additional number of boats. Furthermore, no nighttime operations are currently planned; if such activities were deemed necessary at some time in the future, this EA would have to be supplemented to address these actions.

The same safety and operational aspects as described in the no action alternative would continue under the proposed action. That is, patrols would occur on the U.S. side only, all safety equipment would be carried on each vessel, each airboat operator would be certified for its operation, and land-based USBP units would conduct transport of apprehended aliens.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED

Three other alternatives were considered during the preparation of this EA, but were eliminated from further consideration because they did not satisfy the purpose and need of the project or were not practical.

2.3.1 Increased Land Patrols

Increasing the number of patrols along the riverbank was considered, but eliminated because it would not deter the illegal crossings at their point of origin. If the dense vegetation could be cleared, additional vehicles and agents along the riverbanks could provide deterrence. However, vegetation clearing could result in significant environmental impacts to wildlife, including protected species, increase erosion and sedimentation, and potentially damage cultural resources. Therefore, this alternative was eliminated from further consideration.

2.3.2 Use of Aerial Surveillance

The use of fixed and rotary-wing aircraft was considered as an alternative to the airboats. Aircraft, particularly helicopters, would produce a deterrence to illegal crossings and would provide some assistance in rescue attempts. However, acquisition and operation of helicopters would be much more expensive than airboats and there would still be a need for some type of boat to effect a safe rescue of a drowning victim. In addition, aircraft operations would be hampered more often than airboats by inclement weather.

2.3.3 Use of Other Types of Boats

Both in-board and out-board motorized boats were considered as potential alternatives to the airboats. However, due to the shallow conditions of the river throughout most of the year, such vessels would be hindered from patrolling large reaches of the river. In addition, much of the Rio Grande has extensive and dense growths of exotic aquatic plants, which can bog down propellers. Thus, the response times would be significantly reduced and, in some reaches, eliminated due to the river conditions. Therefore, this alternative was eliminated from further consideration.

SECTION 3.0
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This section describe the existing conditions in the along the Rio Grande within the Del Rio Sector's AOR. These discussions are provided primarily for information purposes to allow the reader to become familiar with the natural and human environment surrounding the area. These discussions also focus on those resources that have the potential to be affected by the proposed action. Much of this information has been summarized from the Technical Support Document (Volume 2—Texas Land Border) of the Revised Supplemental Draft Programmatic Environmental Impact Statement of INS/JTF-6 Activities along the U.S./Mexico border (USACE 2000).

3.1 AIR QUALITY

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six criteria pollutants (Table 3-1). Areas where air pollution levels persistently exceed the NAAQS may be designated non-attainment. Dimmit, Kinney, Maverick, Val Verde and Webb counties are located within the EPA's Region 6 and are currently in attainment with established national and state air quality standards for all criteria pollutants (EPA 2001).

3.2 NOISE

There are three common classifications of noise: (1) general audible noise that is heard by humans; (2) special noise, such as sonic booms and artillery blasts that can have a sound pressure of shock component; and (3) noise-induced vibration also typically caused by sonic booms and artillery blasts involving noise levels that can cause physical movement (i.e., vibration) and even possible damage to natural and man-made structures such as geologic faults, buildings, and cultural resource structure.

Table 3-1
National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE	STANDARD TYPE
Carbon Monoxide (CO)		
8-hour average	9ppm (10mg/m^3)**	Primary
1-hour average	35ppm (40mg/m^3)**	Primary
Nitrogen Dioxide (NO_2)		
Annual arithmetic mean	0.053ppm (100μ/m^3)**	Primary and Secondary
Ozone (O_3)		
1-hour average*	0.12ppm (235μg/m^3)**	Primary and Secondary
8-hour average*	0.08ppm (157μg/m^3)**	Primary and Secondary
Lead (Pb)		
Quarterly average	1.5μg/m^3	Primary and Secondary
Particulate<10 micrometers (PM-10)		
Annual arithmetic mean	50μg/m^3	Primary and Secondary
24-hour average	150μg/m^3	Primary and Secondary
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15μg/m^3	Primary and Secondary
24-hour Average	65μg/m^3	Primary and Secondary
Sulfur Dioxide (SO_2)		
Annual arithmetic mean	0.03ppm (80μg/m^3)**	Primary
24-hour average	0.14ppm (365μg/m^3)**	Primary
3-hour average	0.50ppm (1300μg/m^3)**	Secondary

Source: U.S. Environmental Protection Agency (USEPA) 1995.
Legend: ppm = parts per million
mg/m^3 = milligrams per cubic meter
μg/m^3 = micrograms per cubic meter
*The ozone 1-hour standard applies only to areas that were designated non-attainment when the ozone 8-hour standard was adopted in July 1997.
**Parenthetical value is an approximate equivalent concentration.

Audible noise typically is measured in A-weighted sound levels expressed in decibels (dBA). The A-scale de-emphasizes the low- and high-frequency portions of the sound spectrum and provides a good approximation of the response of the average human ear. On the A-scale, zero dBA represents the average least perceptible sound (gentle breathing), and 140 dBA represents the intensity at which the eardrum may rupture (jet engine at open throttle) (National Research Council 1977).

Airboat decibel levels are greatly effected by propeller design, payload, water/ice conditions, propeller diameters, engine size and craft design. The Florida type airboats, which are proposed to be used for this patrol, with large diameter propellers, measured within 20 feet of the propeller, would see maximum readings in the 125+ dBA area with the engine at full throttle and loaded (Chapman 2001).

3.3 SURFACE WATER RESOURCES

The Texas Water Development Board (TWDB) has been directed to prepare and maintain a comprehensive State Water Plan under Sections 16.051 and 16.055 of the Texas Water Code. The State Water Plan compiles water use and supply data from municipalities with 1,000 or more residents and rural areas. These data are arranged into 16 defined geographic regions with common water issues and regulatory goals. From a natural resource perspective, water has been identified as occurring in 15 major river basins and 8 coastal basins in Texas. Surface water in the Southern Gulf Coastal Plains is located in two drainage basins. The Texas Gulf Region contains the Nueces River and its tributaries. The Rio Grande basin contains the Rio Grande basin including the International Falcon Reservoir and the Arroyo Colorado, a major drainage way in the Lower Rio Grande Valley, which is used mainly as a diversion canal for irrigation of agricultural crops. In addition, there is one major estuary (Laguna Madre) located along the Texas coast. Numerous reservoirs and lakes having more than 5,000 acre-feet capacity that are used for conservation and flood storage are found throughout the area (Texas Department of Water Resources 1997). The Gulf Coast of Texas encompasses over 624 miles of shoreline on the Gulf of Mexico.

Surface water in the Great Plains of Texas is predominantly located in the Rio Grande basin which includes the International Amistad Reservoir, and portions of the Devils and

Pecos Rivers. The International Amistad Reservoir with a surface area of 64,900 acres provides water conservation storage (3,383,900 acre-feet) and flood control in Val Verde County (Woodward 1988; Kingston 1993).

Water quality assessment for the Rio Grande indicate that the river below Lake Amistad is in non-attainment of designated use due to major excursions of the quality standards for fecal coliforms, total dissolved solids, and some toxics (pesticides, metals, and priority organics). Sources of the contamination include municipal and industrial point-source discharges and non-point sources such as run-off from agricultural operations. Border sister cities, such as Ciudad Acuna/Del Rio and Piedras Negras/Eagle Pass, are considered as the major contributors of waste discharges into the Rio Grande. (USACE 2000)

3.4 GROUNDWATER

Seven major aquifers collectively supply most of the groundwater used in Texas. The two main aquifers in the Southern Gulf Coastal Plains Province are the Gulf Coast and Carrizo-Wilcox systems. The Gulf Coast aquifer system underlies an area from the coastline inland 100 miles and extends from the Rio Grande Valley northeast into Louisiana. It is a multi-aquifer system that consists of interbedded and interfingering beds of sand, silt, clay, and gravel. This large artesian system ranges in depth from 200-1,500 feet but may extend to depths of more than 3,000 feet. Yields of large-capacity wells range from 300-1,500 gallons per minute with maximum yields exceeding 4,500 gallons per minute.

The Carrizo-Wilcox is one of the most extensive aquifers in Texas and supplies water for all categories of wells from Mexico northeastward into Arkansas and Louisiana. It consists of hydrologically interconnected sand, sandstone, clay, silt, gravel, and lignite. The water is mostly confined, with large-capacity flowing wells ranging in depth from 200-1,000 feet but may extend to depths of more than 5,500 feet. Yields of large-capacity wells range from 300-800 gallons per minute with maximum yields exceeding 3,000 gallons per minute (Baker 1985; TWC 1992a).

The two main aquifers in the Texas Great Plains Province are the Edwards (Balcones Fault Zone) and Edwards-Trinity (Plateau) systems. The Edwards aquifer system is a very productive aquifer consisting of limestone, dolomite, and marl and is extensively faulted, fractured, and cavernous. Some of the largest springs (e.g., San Felipe) in the state result from the discharge of water from the aquifer. This confined/unconfined system ranges in depth from 100-1,000 feet but may extend to depths of more than 2,500 feet. Yields of large-capacity wells range from 400-1,200 gallons per minute with maximum yields exceeding 16,000 gallons per minute.

The Edwards-Trinity aquifer consists of sandstone, sand, and clay in the lower part and limestone, dolomite, and marl in the upper part. Springflow from the aquifer sustains much of the base flow of many streams that cross the outcrop. This flow recharges the Edwards aquifer in reaches downstream. The confined/unconfined system ranges in depth from 150-300 feet but may extend to depths of more than 800 feet. Yields of large-capacity wells range from 50-200 gallons per minute with maximum yields exceeding 3,000 gallons per minute (TNRCC 1997).

3.5 BIOLOGICAL RESOURCES

3.5.1 Vegetation and Wildlife

The vegetation communities of Texas can be defined on the basis of the interaction of geology, soils, physiography, and climate. These vegetation areas set the stage for a wide array of land uses that vary from intensive cropland agriculture and extensive ranching to urban development.

A total of seven biotic provinces occur in Texas. The Southern Gulf Coastal Plains lies within the Tamaulipan biotic province, which encompasses Maverick, Webb and Dimmitt counties. The Great Plains lies primarily within the Balconian biotic province (Edwards Plateau), which includes Kinney and Val Verde Counties.

The Tamaulipan biotic province encompasses the entire Southern Gulf Coastal Plains and is characterized as semiarid with a dense growth of shrubs and small trees (e.g., thorny brush). Wildlife fauna includes a considerable element of neotropical species with a strong dilution of the Austroriparian and Sonoran species. These include rodents

(e.g., pocket mice), numerous species of lizards, snakes, and amphibians (i.e., toads, true frogs), plus a variety of waterfowl, shorebirds, and rangeland/forest birds (Blair 1950).

Vegetation of the Edwards Plateau along the Rio Grande from Del Rio (including the International Amistad Reservoir and the Pecos River) is dominated by the cenizo-blackbrush-creosotebrush community in Val Verde County.

The Balconian biotic province is characterized as a semiarid region of intermediate ecological conditions between the eastern forests and western deserts. Both the flora and fauna include a mixture of Austroriparian, Tamaulipan, Chihuahuan, and Kansan province species. The wildlife includes rodents (i.e., squirrels, pocket mice, rats and mice), numerous species of lizards and snakes, plus a variety of waterfowl and rangeland/forest birds. The vegetation communities include a mesquite-blackbrush bush habitat in southeastern Val Verde County and northwestern Kinney County, a live oak-Ashe juniper parks community and a small area of live oak-Ashe juniper woods in northeastern Kinney County. The mesquite-juniper-live oak brush community is dominant in the northeastern Val Verde County. This area is also interdispersed with live oak-mesquite-Ashe juniper parks, mesquite-juniper shrub, and mesquite-juniper brush plant communities. (Frye et al. 1984; McMahan et al. 1984; Hatch et al. 1990).

3.5.2 Threatened and Endangered Species

The Endangered Species Act (ESA) [16 U.S.C. 1532 et. seq.] of 1973, as amended, was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protection programs for designated species and to use their authorities to further the purposes of the act. Responsibility for the identification of a threatened or endangered species and development of any potential recovery plans lies with the Secretary of the Interior and the Secretary of Commerce.

The USFWS and the National Marine Fisheries Service (NMFS) are the primary agencies responsible for implementing the ESA. The USFWS is responsible for birds,

terrestrial, and freshwater species, while the NMFS is responsible for non-bird marine species. The USFWS' responsibilities under the ESA include: (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species.

An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those, which have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered endangered or threatened when any of the five following criteria occurs: (1) the current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affect continued existence.

In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate (C) designation includes those species for which the USFWS has sufficient information on hand to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

The ESA also calls for the conservation of what is termed Critical Habitat - the areas of land, water, and air space that an endangered species needs for survival. Critical habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water development.

3.5.2.1 Federal Species

A total of 12 Federally endangered, threatened, proposed threatened, and candidate species occur within Kinney, Maverick, Dimmit and Val Verde counties, Texas. A total of nine species are listed as endangered, one as proposed threatened, and one as threatened. One species, the Gulf Coast hog nose skunk, is listed as a candidate species. Information pertaining to these Federal protected species is included in Table 3-2.

3.5.2.2 State Species

The Texas Parks and Wildlife Department maintains lists of Special Species. This list includes species whose occurrence in Texas is rare, threatened, of endangered (TXBCD). These species are not necessarily the same as those protected by the Federal Government under the ESA. This list includes three mammals, seven birds, four reptiles, four fishes, one mollusk, one insect and five vascular plants occurring in Kinney County. Six mammals, five birds, seven reptiles, one amphibian, two fishes, one mollusk and two vascular plants are listed from Maverick County. In Val Verde County five mammals, ten birds, eight reptiles, one amphibian, 12 fishes, two mollusks, one insect and 14 vascular plants are listed. In Dimmit County three mammals, three birds, six reptiles, one amphibian, and two vascular plants are listed as occurring. Five mammals, nine birds, six reptiles, five fishes, one mollusk, and six vascular plants are listed occurring in Webb County. Information pertaining to Special Species potentially occurring in these counties is presented in Appendix A.

3.6 SOCIOECONOMICS

The following sections present baseline socioeconomic data for each county potentially affected (i.e., Kinney, Dimmit, Maverick, Val Verde and Webb Counties). Socioeconomic data discussed include population, racial and ethnic distribution, employment, and income.

Table 3-2

Federally Protected Species of Potential Occurrence in Webb, Dimmit, Kinney, and Val Verde Counties

Common/Scientific Name	Status	Date Listed	Counties	Habitat
PLANTS				
Ashy dogweed *Thymophylla tephroleuca*	E	7/19/84	Webb and Dimmit	Brushy grasslands
Johnston's frankenia *Frankenia johnstonii*	E	8/7/84	Webb and Dimmit	Scrub vegetation on rocky hillsides or saline flats
Texas snowbells *Styrax texana*	E	10/12/84	Kinney and Val Verde	Crevices in limestone cliffs beside streams
Tobush fishhook cactus *Ancistrocactus tobuschii*	E	11/7/79	Val Verde	Limestone gravel along stream banks
BIRDS				
Bald eagle *Haliaeetus leucocephalus*	T	3/11/67	Kinney	Large rivers and lakes with adequate prey sources and perches
Black-capped vireo *Vireo atricapillus*	E	10/6/87	Kinney and Val Verde	Shrublands and open woodlands with a patchy structure
Golden-cheeked warbler *Dendroica chrysoparia*	E	5/4/90	Kinney	Tall, dense, mature stands of ashe juniper
Interior least tern *Sterna antillarum*	E	5/28/85	Webb	Open sandy areas along shores
Mountain plover *Charadrius mountanus*	P/T	2/16/99	Webb and Dimmit	Short grass prairies and arid plains
MAMMALS				
Gulf Coast hog-nosed skunk *Conepatus leuconotus texensis*	C	9/17/97	Webb	Brushy or partially forested foothills
Jaguarundi *Felis yagouaroundi cacomitli*	E	6/14/76	Webb, Dimmit and Maverick	Chaparral, mesquite thickets near streams
Ocelot *Felis pardalis*	E	3/27/82	Webb and Dimmit	Southwestern brushlands

3.6.1 Population

The total estimated population for Kinney County was 3,516 in 1998. This is an increase of 11.7percent over the 1990 population of 3,149. The racial mix is comprised of 54.7 percent claiming Hispanic origin, 41.3 percent Caucasians, and 2.36 percent African Americans. The remaining 1.64 percent split among Asian and Pacific Islanders, Native Americans, Eskimos, and other races (U.S. Bureau of the Census 2001).

In Maverick County, the total estimated population in 1998 was 48,377. This is an increase of 31.2 percent over the 1990 population of 36,873. The racial mix is comprised of 94.3 percent claiming Hispanic origin and 3.5 percent Caucasians. The remaining 2.2 percent split among African Americans, Asian and Pacific Islanders, Native Americans, Eskimos, and other races (U.S. Bureau of the Census 2001).

Val Verde County experienced a 14percent increase over the 1990 population of 38,817; the estimated population in 1998 was 44,272. The racial mix is comprised of 75.5 percent claiming Hispanic origin, 21percent Caucasians and 2.1percent African Americans. The remaining 1.4 percent split among Asian and Pacific Islanders, Native Americans, Eskimos, and other races (U.S. Bureau of the Census 2001).

Dimmit County had a 1998 population of 10,410. This is a slight decrease from the 1990 population of 10,418. The racial mix is comprised of 86 percent claiming Hispanic origin and 12.8 percent Caucasians. The remaining 1.2 percent split among Asian and Pacific Islanders, Native Americans, Eskimos, and other races (U.S. Bureau of the Census 2001).

In Webb County, the total estimated population in 1998 was 189,052. This is an increase 40.1 percent over the 1990 population of 134,943. The racial mix is comprised of 94.7 percent claiming Hispanic origin and 4.4 percent Caucasians. The remaining 0.9 percent split among African Americans, Asian and Pacific Islanders, Native Americans, Eskimos, and other races (U.S. Bureau of the Census 2001).

3.6.2 Employment and Income

Kinney County reported a total number of jobs in 2000 was 945, which represented a decrease of six percent under the 1990 number of jobs of 1,005 (U.S. Bureau of Labor Statistic 2001). The 2000 unemployment rate was 7.9 percent. The total personal income (TPI) for 1997 was $37,379. The average annual growth rate over the past 10 years was 4.4 percent (Regional Economic Information System 2001). The per capita personal income (PCPI) was $11,056. The average annual growth rate for the PCPI over the past ten years was 2.9 percent.

The total number of jobs in Maverick County as of the end of 2000 was 13,328, an increase of 22.3 percent over the 1990 number of jobs of 10,894. The 2000 unemployment rate was 22 percent. The TPI for 1997 was $437,280. The average annual growth rate over the past ten years was 8.5 percent. The PCPI was $9,327. The average annual growth rate for the PCPI over the past ten years was 5.4 percent.

Val Verde County experienced an increase of 20.9 percent over the 1990 number of jobs (13,153) to 15,905 jobs in 2000. However, the 2000 unemployment rate was still about seven percent. The TPI for 1997 was $556,384. The average annual growth rate over the past 10 years was 5.1 percent. The PCPI was $12,942. The average annual growth rate for the PCPI over the past 10 years was 4.3 percent.

Dimmit County reported the total number of jobs in 2000 was 2,832, which represented a decrease of 16 percent under the 1990 number of jobs of 2,832. The unemployment rate for 2000 was 13.3 percent. The TPI for 1997 was $116,915. The average annual growth rate over the past 10 years was 5.4 percent. The PCPI was $11,230 for 1997. The average annual growth rate for the PCPI over the past 10 years was 6.1 percent.

The total number of jobs in Webb County in 2000 was 62,591, an increase of 28.3 percent over the 1990 number of jobs of 48,766. The 2000 unemployment rate was 7.3 percent. The TPI for 1997 was $2,356,707. The average annual growth rate over the past 10 years was 10.4 percent. The PCPI was $12,999. The average annual growth rate for the PCPI over the past ten years was 6.4 percent.

3.7 LAND USE

3.7.1 Kinney County

Rangeland is utilized for the production of cattle, sheep, and goats and comprises 98 percent of the total land use within Kinney County. Other agriculture operations comprise less than one percent of the land use. Important products include cotton, corn, and vegetables. Tourism is a major commercial activity with most recreational activities centered around hunting. Brackettville (population 1,889) is the county seat and the largest urban area.

3.7.2 Maverick County

Maverick County is comprised of about 92 percent of rangeland, six percent agricultural land, and less than one percent devoted to urban land use. Beef cattle production is the primary use of rangeland, although hunting (primarily for white-tailed deer) is an important secondary land use. Agricultural crops include oats, sorghum, wheat, pecans, and vegetables. Mineral production (oil, gas, sand, and gravel) is also an important resource in Maverick County and occurs mostly on lands designated as rangeland. The county is a tourist gateway to Mexico, particularly through the POE at Eagle Pass. Eagle Pass (population 27,554) is also the county seat.

3.7.3 Val Verde County

Val Verde County is almost entirely (99 percent) dedicated to agricultural activities including the production of sheep, Angora goats, and cattle. In addition to being a gateway to Mexico, deer hunting and fishing provide recreational opportunities on the International Amistad Reservoir and Seminole Canyon State Historical Park. Urban areas are the City of Del Rio (county seat, population 34,495) and the adjacent Laughlin Air Force Base (population 2,596).

3.7.4 Dimmit County

Rangeland comprises 96 percent of the total county land use, but this also includes recreation (mostly hunting, fishing, and camping). The mild winter climate encourages

tourism. Land is also utilized for oil and gas production. About three percent of the land is used for agriculture. The agricultural crops are cotton, hay, and pecans. Limited areas are irrigated for production of vegetables. A variety of small manufacturing plants are located in the urban areas of Carrizo Springs, the county seat (population 5,856).

3.7.5 Webb County

In Webb County, approximately 98 percent of the land is utilized as rangeland. Urban and agricultural land use occupies less than one percent of the total county land area. The lands are open and rural with the exception of the City of Laredo (population 164,899) and several small communities east of Laredo (i.e., Aguilares, Mirando City, Oilton, and Bruni). The county is a leading producer of beef cattle. Agricultural crops include vegetables, grain sorghum, and cotton. The county is a major tourist gateway to Mexico. Laredo is a regional center of transportation for goods exported and imported from Mexico. International trade and light manufacturing facilities occupy a large percentage of the urbanized land in the City of Laredo.

3.8 CULTURAL RESOURCES

The cultural resources within the study area are extensive and diverse. Numerous terrestrial investigations have been performed along the river. These investigations and their results are discussed in detail in Volume 2, of the Environmental Baseline Document in support of the Supplemental Programmatic Environmental Impact Statement for INS and JTF-6 Activities Along the U.S./Mexico Border, and are hereby incorporated by reference (USACE 2000).

Numerous riverine investigations have also been conducted as part of environmental impact analysis of international bridge sites. Thus far, no underwater resources (e.g., ship wrecks) have been identified in this reach of the river (U.S. Department of State 1998).

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 AIR QUALITY

4.1.1 No Action Alternative

Air quality within the region would not be impacted by the implementation of the no action alternative. It is anticipated that the region's air quality would remain in attainment.

4.1.2 Proposed Action

The project area is located within EPA's Region 6 and is currently in attainment with established national and state air quality standards for all criteria pollutants (EPA 2001). Although the proposed action would increase the hours of operation by over 17,000 hours per year, the emissions produced by the airboats are not expected to have significant effects on the regions air quality. The type of equipment used and the good dispersion patterns of the region, indicate that emissions would not be created that would jeopardize the attainment status of the project area.

4.2 NOISE

4.2.1 No Action Alternative

Noise levels would remain the same as they currently are under the no action alternative. The two airboats currently in operation would continue to patrol the river and thus generate temporary increases in noise. There are no official manufacturer specifications for the airboats currently used. However, the USBP has measured the noise levels and reported that the noise ranges from 50 to 60 decibels while idling and up to 90 decibels at full speed.

4.2.2 Proposed Action

Airboat traffic involved in the additional airboat patrol would cause increases in ambient noise levels. Although these effects would occur over the life of the project, each event would be short term. Because of the remote location of the boat patrol route, no

significant long-term adverse effects to the human environment would result from the operation of airboats. The same noise levels described under the no action alternative would occur if the proposed action were implemented; the frequency at which the noise was generated would be increased, however.

Wildlife would be temporarily disturbed during the operation of the airboats. A startled response would be expected while the airboats pass by wildlife; but wildlife generally habituates to noise and thus, no long-term effects to wildlife populations would be expected. The wildlife along the river has been subjected to USBP airboat and other watercraft noise for years and the increase anticipated by the additional six airboats would not be expected to cause significant long-term adverse effects. Of particular importance, however, is the potential effect on protected species that utilize the river and the riparian corridor. These effects are discussed in more detail in Section 4.5.

4.3 SURFACE WATER

4.3.1 No Action Alternative

The no action alternative would have no additional impacts to the surface water quality. Normal operation of the airboats and other watercraft result in the release of hydrocarbons to streams and lakes. These releases are typically minimal, provided the watercraft are properly maintained and operated. The effects of releases are of more concern in closed systems; the Rio Grande below Amistad Lake is a free-flowing system.

No reportable spills of petroleum, oils or lubricants (POL) have occurred as a result of the USBP airboat operations. This safe operation record is expected to continue.

4.3.2 Proposed Action

Implementation of the proposed action would result in an increased amount of POLs being released to the river under normal operations. Since the Rio Grande is flushed during most flood events and the releases would be insignificant amounts (less than out- or in-board motorboats), these effects would be considered negligible.

The increase in the number of airboats and the hours of operation would increase the potential for accidental spills of POL. Each airboat would carry from 40 to 80 gallons of gasoline on board, which would be the most that would be spilled on any given occasion. Spill containment equipment would also be carried on board so that containment and countermeasures could be implemented immediately. For spills in excess of five gallons, the appropriate authorities (U.S. Coast Guard, EPA, and Texas Natural Resources Conservation Commission) would be notified immediately.

4.4 GROUND WATER

4.4.1 No Action Alternative

The only potential effect to ground water would be if a large accidental spill occurred. If the entire (70 gallons) of fuel stored on the current airboats were spilled, it is highly unlikely that groundwater would be affected. Spill containment and countermeasures would be implemented immediately to minimize the potential effects.

4.4.2 Proposed Action

The only potential effect to ground water would be if large accidental spill occurred. If the entire (up to 80 gallons) of fuel stored that would be stored on each of the additional airboats were spilled, it is highly unlikely that groundwater would be affected. The spill would more than likely occur over the water and thus dissipated prior to enter ground water supplies. In addition, spill containment and countermeasures would be implemented immediately to minimize the potential effects.

4.5 BIOLOGICAL RESOURCES

4.5.1 Vegetation and Wildlife

4.5.1.1 No Action Alternative

No vegetation communities would be affected by the continued use of the two airboats on the Rio Grande. No additional boat ramps would be necessary, which would result in clearing vegetation. Wildlife disruptions would continue at the same level, which are expected to be minimal and temporary.

4.5.1.2 Proposed Action Alternative

No vegetation communities would be affected by the operation of the six additional airboats on the Rio Grande. No additional boat ramps would be necessary, which would result in clearing vegetation. Wildlife disruptions would be slightly more frequent since the patrols within a given reach would be increased. General wildlife populations are expected to be able to habituate to operations, much as they do at airports and along highways.

4.5.2 Threatened or Endangered Species

4.5.2.1 No Action Alternative

Implementation of the no action alternative is not expected to affect any listed species. The wood stork and interior least tern are the only bird species that might be disturbed by the airboat operations. However, these species have not been observed along this reach of the river and, thus, no impacts are expected to occur.

Since nighttime operations are not conducted, no impacts to ocelot and jaguarundi are expected. In addition, no confirmed sightings of either ocelots or jaguarundi have been made in this reach since April 21, 1986 (Tewes and Ohmart 1987; USFWS 1993).

4.5.2.2 Proposed Action

Implementation of the proposed action alternative is not expected to affect any listed species. The wood stork and interior least tern are the only bird species that might be disturbed by the airboat operations. However, these species have not been observed along this reach of the river and, thus, no impacts are expected to occur.

Since nighttime operations are not currently proposed, no impacts to ocelot and jaguarundi are expected. In addition, no confirmed sightings of either ocelots or jaguarundi have been made in this reach since April 21, 1986. In the event nighttime operations are proposed at some time in the future, this EA would have to be supplemented to address the potential effects on these nocturnal species.

4.6 SOCIOECONOMIC RESOURCES

4.6.1 No Action Alternative

The no action alternative would not affect the socioeconomic conditions of the region.

4.6.2 Proposed Action Alternative

Implementation of the proposed action alternative would have minimal but beneficial direct impacts on the local economy. Approximately 17,000 additional gallons of fuel would be purchased annually from local sources. Annual repair and maintenance costs would be about $200 per boat or $1,200 per year for the additional six airboats. Little, if any, additional employment opportunities would result from implementation of this alternative.

Indirect beneficial effects would be deterrence and apprehension of illegal aliens as they enter the U.S. and before they are on land where there is plenty of cover to escape detection and apprehension. Such actions could promote a better and healthier economy by providing a safer environment in which to live and work. The additional airboats would also serve to reduce the potential of drowning accidents by ensuring that remote locations are patrolled more frequently.

4.7 LAND USE

4.7.1 No Action Alternative

The no action alternative would allow the current enforcement operations to continue. Thus, no impacts to land use would be expected. No additional boat ramps would be required.

4.7.2 Proposed Action Alternative

The proposed action alternative would increase the patrol efforts along the river. No changes to land use would be expected as a result of these increases. No additional boat ramps would be required.

4.8 CULTURAL RESOURCES

4.8.1 No Action Alternative

The no action alternative would allow the current enforcement operations to continue. Thus, no impacts to cultural resources would be expected. No additional boat ramps, which could impact cultural resources sites, would be required.

4.8.2 Proposed Action Alternative

The proposed action alternative would increase the patrol efforts along the river. No impacts to cultural resources would be expected as a result of these increases. No additional boat ramps, which could impact cultural resources sites, would be required.

4.8.3 Environmental Justice

Executive Order 12898 of February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires each Federal agency to identify and address, as appropriate, disproportionate adverse effects of its proposed actions on minority populations and low-income communities. No residences or commercial structures would be displaced as a result of the Proposed Action; therefore, implementation of this alternative would not disproportionately affect minority or low-income populations in the area. The health and safety of children would not be adversely affected by the proposed action. To the contrary, increased airboat patrols would serve to reduce the number of drowning accidents.

The reduction of illegal immigrants and, in particular, drug smugglers would have indirect beneficial effects on the region's population and economy. These effects would occur to all families regardless of race, ethnicity, or income.

4.9 CUMULATIVE EFFECTS

The proposed action would triple the number of airboats used by the USBP along the 205-mile reach of the Rio Grande, which would increase the amount of hydrocarbon emissions, potential POL spills, and noise levels. Because of the length of the river and

the minimal amount of time that the airboats will be in any given location, these cumulative effects are not expected to be significant.

Numerous construction activities have occurred along this reach of the Rio Grande, which have impacted fish and wildlife habitat. Some of the more major actions have included the Amistad Dam and Reservoir and the international bridge crossings at Del Rio and Eagle Pass. A Presidential Permit was issued by the U.S. Department of State in 1996 for construction of a second international bridge at Eagle Pass. Construction of this bridge is currently underway. There are no other construction plans currently known to the USBP that would cause additional, cumulative effects to the river and riparian habitat. Since the proposed action would not affect any vegetation communities and would result in only temporary disturbances to wildlife, no significant cumulative impact would be expected as a result of the additional airboats.

SECTION 5.0
MITIGATION MEASURES

5.0 MITIGATION MEASURES

This chapter describes environmental design measures that would be implemented as part of the proposed action to procure and operate six additional airboats along the Rio Grande. Due to the limited nature of this project, impacts are expected to be slight. Therefore, mitigation measures are only described for those resources with potential for impacts.

5.1 BIOLOGICAL RESOURCES

No additional boat ramps would be installed without coordination with the appropriate resource and regulatory agencies and the supplementation of this EA. Airboat operators are prohibited from chasing or harassing wildlife. Any protected species, or species suspected to be protected, that are observed during patrol efforts shall be immediately reported to the U.S. Fish and Wildlife Service (USFWS) and the Texas Parks and Wildlife Department (TPWD). Likewise, collisions with any vertebrate species that results in an obvious injury to or death of the animal shall be reported to the USFWS or TPWD, as appropriate.

5.2 AIR QUALITY

Proper and routine maintenance of all airboats and towing vehicles would be implemented to ensure that air emissions are within the design standards of the piece of equipment.

5.3 WATER RESOURCES

Conservation measures would be implemented to preclude unnecessary waste of water supplies. Discharge of sump water and other wastes to drainages or other water bodies is prohibited. Each airboat shall be equipped with spill containment and countermeasure equipment. Accidental spills of POL in excess of five gallons shall be immediately reported to the appropriate authorities.

SECTION 6.0
LIST OF PREPARERS

6.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

NAME	AGENCY/ORGANIZATION	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING EA
Eric Verwers	INS A-E Resource Center	Biology	14 years in NEPA and related studies	Program manager and EA review and coordination
Chris Ingram	Gulf South Research Corporation	Biology/Ecology	22 years EA/EIS studies	Impact analysis and EA review
Suna Adam Knaus	Gulf South Research Corporation	Forestry/Wildlife	14 years natural resources	Introduction, alternative formulation, and EA review
Sharon Newman	Gulf South Research Corporation	GIS/Graphics	6 years GIS experience	Graphics
Donna Marie Bankston	Gulf South Research Corporation	Biology/Ecology	1 year EA/EIS studies	Water quality, noise, Biological resources, and Socioeconomics
Josh McEnany	Gulf South Research Corporation	Biology/Ecology	1 year EA/EIS studies	Land use and air quality

SECTION 7.0
REFERENCES

7.0 REFERENCES

Baker, Jr., E.T. 1985. Texas Ground-Water Resources. Pages 397-402 in National Water Summary 1984: Hydrologic Events, Selected Water-Quality Trends, and Ground Water Resources. U.S. Geological Survey Water-Supply Paper 2275.

Blair, W.F. 1950. The Biotic Provinces of Texas. *Texas Journal of Science* 2(1):93-117.

Chapman, Rick. 2001. Husky Airboats. Decibel Level Information on Airboats. E-mail: airboat@attcanada.ca

Environmental Protection Agency (EPA). 2001. Air Quality Webpage: http://www.epa.gov/oar/oaqps/greenbk

Frye, R.G., K.L. Brown, and C.A. McMahan. 1984. The Vegetation Types of Texas. Texas Parks and Wildlife Department, Austin, Texas. Map.

Hatch, S.L., N.G. Kancheepuram, and L.E. Brown. 1990. Checklist of the Vascular Plants of Texas. Texas Agricultural Experiment Station, Texas A&M University System, College Station, Texas. 158 p.

Kingston, M. 1993(ed.). 1994-1995 Texas Almanac and State Industrial Guide. The Dallas Morning News, Inc., Dallas, Texas. 72 p.

National Research Council. 1977. Guidelines for Preparing Environmental Impact Statements on Noise. Prepared by the Committee on Hearing, Bioacoustics and Biomechanics, Assembly of Behavior and Social Sciences. Office of Naval Research, Contract No. N00014-75-C-0406. Washington, D.C.

Regional Economic Information System. 2001. 1998 Income Information by County. Internet Website: http://www.bea.doc.gov/bea/regional

Texas Department of Water Resources. 1984. Water fir Texas: Volume 1 – A Comprehensive Plan for the Future; Volume 2 – Technical Appendix. Texas Department of Water Resources, Austin, Texas. GP-4-1.

Texas Natural Resource Conservation Commission (TNRCC). 1997. Internet Webpage: http://www.tnrcc.state.tx.us/

Texas Biological and Conservation Data System. Texas Parks and Wildlife Department, Wildlife Diversity Program. County Lists of Texas' Special Species.

Texas Water Commission. 1992a. The State of Texas Water Quality Inventory. 11th Edition. LP-92-16. Texas Water Commission, Austin, Texas. 682 p.

Tewes, M.E., and R.D. Ohmart. 1987. Potential effects of mowing on three endangered species along the Lower Rio Grande River. Prepared for International Boundary and Water Commission-United States Section. El Paso. 32 p.

U.S. Army Corps of Engineers (USACE), 2000. Revised Draft Supplemental Programmatic Impact Statement for Immigration and Naturalization Service and Joint Task Force Six Activities along the U.S./Mexico Border, with Technical Support Documents (Volumes 1-5).

U.S. Bureau of the Census. 2001. 1998 Population Data by County. Internet Website: http://govinfo.library.orst.edu/

U.S. Bureau of Labor Statistics and Real Estate Center at Texas A&M University. 2001. County Employment. Internet Website: http://recenter.tamu.edu/Data/empc/

U.S. Fish and Wildlife Service Biological Opinion. 1993. Prepared for International Boundary and Water Commission-United States Section. Albuquerque, NM. 27 p.

Woodward, D.G. 1988. Texas Surface-Water Resources. Pages 431-440 in National Water Summary 1985: Hydrologic Events and Surface Water Resources. U.S. Geological Survey Water-Supply Paper 2300.

SECTION 8.0
LIST OF ACRONYMS/ABBREVIATIONS

8.0 LIST OF ACRONYMS/ABBREVIATIONS

AERC	Architect-Engineer Resource Center
AOR	Area of Responsibility
CO	Carbon monoxide
dB	decibel
EA	Environmental Assessment
E.O.	Executive Order
ESA	Endangered Species Act
FY	Fiscal Year
GIS	Geographic Information System
INA	Immigration and Nationality Act
INS	Immigration and Naturalization Service
$\mu g/m^3$	Micrograms per cubic meter
lbs	Pounds
mg/m^3	Milligrams per cubic meter
mph	Miles per hour
NEPA	National Environmental Policy Act of 1969
NIWWTP	Nogales International Wastewater Treatment Plan
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NO_2	Nitrogen Dioxide
O_3	Ozone
OAQPS	Office of Air Quality Planning and Standards
PM_{10}	Particulate matter
PCPI	Per Capita Personal Income
Pb	Lead
POE	Port of Entry
POL	Petroleum, oils or lubricants
ppm	Parts per million
$S0_2$	Sulfur dioxide
TPI	Total Personal Income
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

APPENDIX A
STATE PROTECTED SPECIES

State Protected Species of Potential Occurrence in Kinney County, Texas

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Jaguarundi	*Felis yaguarondi*	LE	E
Ocelot	*Felis paradalis*	LE	E
Texas pocket gopher	*Geomys personatus fuscus*		
Birds			
American peregrine falcon	*Falco peregrinus anatum*	LE	E
Arctic peregrine falcon	*Falco peregrinus tundrius*	E/SA	T
Black-capped vireo	*Vireo atricpillus*	LE	E
Common black-hawk	Buteogallus anthracinus		T
Golden-cheeked warbler	Dendroica chrysoparia		T
Interior least tern	Sterna antillarum athalassos	LE	E
Mexican hooded oriole	Icterus cucullatus cucullatus		
Reptiles			
Indigo snake	*Drymarchon corais*		T
Spot-tailed earless lizard	*Holbrookia lacerata*		
Texas horned lizard	*Phrynosoma cornutum*		T
Texas tortoise	*Gopherus berlandieri*		T
Amphibians			
Edwards plateau spring salamanders	*Eurycea sp. 7*		
Fishes			
Blue sucker	*Cycleptus elongatus*		T
Devils river minnow	*Dionda diaboli*	PE/T	
Mexican stoneroller	*Campostoma ornatum*		T
Proserpine shiner	*Cyprinella proserpina*		T
Mollusk			
Texas hornshell	*Popenaias popei*		
Insect			
Maculated manfreda skipper	*Stallingsia maculosus*		
Vascular Plants			
Broadpod rushpea	*Caesalpinia brachycarpa*		
Silvery wild-mercury	*Argythamnia argyraea*		
Texas largeseed bittercress	*Cardamine macrocarpa var texana*		
Texas trumpets	*Acleisanthes crassifolia*		
Tobusch fishhook cactus	*Ancistrocactus tobuschii*	LE	E

State Protected Species of Potential Occurrence in Maverick County, Texas

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Black bear	*Ursus americanus*	T/SA	T
Cave myotis bat	*Myotis velifer*		
Jaguarundi	*Felis yaguarondi*	LE	E
Margay	*Fekus wiedii* (extripated)		T
Ocelot	*Felis paradalis*	LE	E
White-nosed coati	*Nasua narica*		T
Birds			
American peregrine falcon	*Falco peregrinus anatum*	LE	E
Arctic peregrine falcon	*Falco peregrinus tundrius*	E/SA	T
Common black-hawk	Buteogallus anthracinus		T
Interior least tern	Sterna antillarum athalassos	LE	E
Wood stork	Mycteria americana		T
Reptiles			
Indigo snake	*Drymarchon corais*		T
Keeled earless lizard	*Holbrookia propinqua*		
Mexican blackhead snake	*Tantilla atriceps*		
Reticulate collared lizard	*Crotaphytus reticulatus*		T
Spot-tailed earless lizard	*Holbrookia lacerata*		
Texas horned lizard	*Phrynosoma cornutum*		T
Texas tortoise	*Gopherus berlandieri*		T
Amphibians			
South Texas siren (large form)	*Siren sp. 1*		T
Fishes			
Proserpine shiner	*Cyprinella proserpina*		T
Rio Grande shiner	*Notropis jemezanus*		
Mollusk			
Texas hornshell	*Popenaias popei*		
Vascular Plants			
Silvery wild-mercury	*Argythamnia argyraea*		
Texas trumpets	*Acleisanthes crassifolia*		

State Protected Species of Potential Occurrence in Val Verde County, Texas

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Black bear	*Ursus americanus*	T/SA	T
Cave myotis bat	*Myotis velifer*		
Greater western mastiff bat	*Eumops perotis californicus*		
Texas pocket gopher	*Geomys personatus fuscus*		
Yuma myotis bat	*Myotis yumanensis*		
Birds			
American peregrine falcon	*Falco peregrinus anatum*	LE	E
Arctic peregrine falcon	*Falco peregrinus tundrius*	E/SA	T
Audubon's oriole	*Icterus graduacauda audubonii*		
Black-capped vireo	*Vireo atricpillus*	LE	E
Interior least tern	Sterna antillarum athalassos	LE	E
Mexican hooded oriole	Icterus cucullatus cucullatus		
Peregrine falcon	Falco peregrinus	E/SA	
Snowy plover	Charadrius alexandrinus		
Wood stork	Mycteria americana		T
Zone-tailed hawk	Buteo albonotatus		T
Reptiles			
Big bend blackhead snake	*Tantilla rubra*		T
Big bend slider	*Trachemys gaigeae*		
Indigo snake	*Drymarchon corais*		T
Mexican blackhead snake	*Tantilla atriceps*		
Reticulate collared lizard	*Crotaphytus reticulatus*		T
Spot-tailed earless lizard	*Holbrookia lacerata*		
Texas horned lizard	*Phrynosoma cornutum*		T
Texas tortoise	*Gopherus berlandieri*		T
Amphibians			
Edwards plateau spring salamanders	*Eurycea sp. 7*		
Fishes			
Blotched gambusia	*Gambusia senilis* (ectirpated)		T
Bluntnose shiner	*Notropis simus* (extirpated)		T
Blue sucker	*Cycleptus elongatus*		T
Conchos pupfish	*Cyprinella eximius*		T
Devils river minnow	*Dionda diaboli*	PE	T
Headwater catfish	*Ictalurus lupus*		
Mexican stoneroller	*Campostoma ornatum*		T
Pecos pupfish	*Cyprinodon eximius*		T
Proserpine shiner	*Cyprinella proserpina*		T

State Protected Species of Potential Occurrence in Val Verde County, Texas cont.

Common Name	Scientific Name	Federal Status	State Status
Fishes cont.			
Rio Grand darter	*Etheostoma grohami*		T
Rio Grande shiner	*Notropis jemezanus*		
Southwestern gambusia	*Gambusia speciosa*		
Mollusk			
Salina mucket	*Disconaias salinasensis*		
Texas hornshell	*Popenaias popei*		
Insect			
Flint's net-spinning caddisfly	*Cheumatopsyche flinti*		
Vascular Plants			
Cliff bedstraw	*Galium correllii*		
Correll's false dragonhead	*Physostegia correllii*		
Dwarf broomspurge	*Chamaisyce jejuna*		
Perennial caltrop	*Kallstroemia perennans*		
Rydberg's scurfpea	*Pediomelum humile*		
Sabinal prairie-clover	*Dalea sabinalis*		
Sonora fleabane	*Erigeron mimegletes*		
Texas grease bush	*Forsellesia texensis*		
Texas snowbells	*Styrax texanus*	LE	E
Texas trumpets	*Acleisanthes crassifolia*		
Tobusch fishhook cactus	*Ancistrocactus tobuschii*	LE	E
Warnock's rock-daisy	*Perityle warnockii*		
Wright's trumpets	*Acleisanthes wrightii*		
Wright's water-willow	*Justicia wrightii*		

State Protected Species of Potential Occurrence in Webb County, Texas

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Cave myotis bat	*Myotis velifer*		
Davis pocket gopher	*Geomys personatus davisi*		
Jaguarundi	*Felis yaguarondi*	LE	E
Ocelot	*Felis paradalis*	LE	E
White-nosed coati	*Nasua narica*		T
Birds			
American peregrine falcon	*Falco peregrinus anatum*	LE	E
Arctic peregrine falcon	*Falco peregrinus tundrius*	E/SA	T
Audubon's oriole	*Icterus graduacauda audubonii*		
Common black-hawk	Buteogallus anthracinus		T
Gray hawk	Buteo nitidus		T
Interior least tern	Sterna antillarum athalassos	LE	E
Sennett's hooded oriole	Icterus cucullatus sennetti		
White-tailed hawk	Buteo albicaudatus		T
Wood stork	Mycteria americana		T
Reptiles			
Indigo snake	*Drymarchon corais*		T
Keeled earless lizard	*Holbrookia propinqua*		
Reticulate collared lizard	*Crptaphytus reticulatus*		T
Spot-tailed earless lizard	*Holbrookia lacerata*		
Texas horned lizard	*Phrynosoma cornutum*		T
Texas tortoise	*Gopherus berlandieri*		T
Fishes			
Blue sucker	*Cycleptus elongatus*		T
Bluntnose shiner	*Notropis simus* (extirated)		T
Conchos pupfish	*Cyprinodon eximius*		T
Rio Grande darter	*Etheostoma grahami*		T
Rio Grande shiner	*Notropis jemezanus*		
Mollusk			
Texas hornshell	*Popenaias popei*		
Vascular Plants			
Kleberg saltbush	*Atriplex Klebergorum*		
Nickel's Cory cactus	*Coryphantha sulcata var nickelsiae*		
Johnston's Frankenia	*Frankenia johnstonii*	LE	E
Few-Spine Engelmann's Prickly-Pear	*Opuntia Engelmannii var Flecospina*		

State Protected Species of Potential Occurrence in Webb County, Texas cont.

Common Name	Scientific Name	Federal Status	State Status
Vascular Plants cont.			
McCart's Whitlow-Wort	*Paronychia Maccartii*		
Ashy dogweed	*Thymophylla tephroleuca*	LE	E

State Protected Species of Potential Occurrence in Dimmitt County, Texas

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Carrizo springs pocket gopher	*Geomys personatus streckeri*		
Jaguarundi	*Felis yaguarondi*	LE	E
Ocelot	*Felis paradalis*	LE	E
Birds			
American peregrine falcon	*Falco peregrinus anatum*	LE	E
Arctic peregrine falcon	*Falco peregrinus tundrius*	E/SA	T
Interior least tern	Sterna antillarum athalassos	LE	E
Reptiles			
Indigo snake	*Drymarchon corais*		T
Keeled earless lizard	*Holbrookia propinqua*		
Reticulate collared lizard	*Crotaphytus reticulatus*		T
Spot-tailed earless lizard	*Holbrookia lacerata*		
Texas horned lizard	*Phrynosoma cornutum*		T
Texas tortoise	*Gopherus berlandieri*		T
Amphibians			
South Texas siren (large form)	*Siren sp. 1*		T
Vascular Plants			
Dimmit Sunflower	*Helianthus praecox ssp. Hirtus*		
Mexican mud-plantain	*Heteranthera Mexicana*		

APPENDIX B
NOTICE OF AVAILABILITY

Exhibit 1

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT
IMMIGRATION AND NATURALIZATION SERVICE
U.S. BORDER PATROL
AIRBOAT PATROLS ON THE RIO GRANDE,
DEL RIO SECTOR, TEXAS

The public is invited to comment on the Draft Environmental Assessment (EA) for the Immigration and Naturalization Service and U.S. Border Patrol's (USBP) proposed increase of USBP airboat patrols on the Rio Grande within the Del Rio Sector, Texas. The Draft EA will be available at the Val Verde Public Library — 300 Spring Street, Del Rio, Texas, 78840 (830) 774-7595. Send written comments to Mr. Eric Verwers, U.S. Army Corps of Engineers, Fort Worth District, 819 Taylor Street, Room 3A28, Fort Worth, Texas 76012 or call Mr. Verwers at (817) 978-0202. Comments will be received until May 28, 2001.

THE STATE OF TEXAS
COUNTY OF VAL VERDE

PO# or sort: _____

AFFIDAVIT OF PUBLISHER

Before me, the undersigned authority, on this day personally appeared Joe San Miguel known to me, who, being by me duly sworn, on his oath deposes and says that he is the publisher of the Del Rio News Herald a newspaper of general circulation published in said County; that said newspaper has beed continuously and regularly published in said County for a period of more than one year; that a copy of the within and foregoing notice was published in said newspaper at least once a week for a period of (1 One) time(s) before the return day named herein, such publication being on the following dates: May 13, 2001

Joe San Miguel
Joe San Miguel

Notary Public in and for Val Verde County, Texas

Thomas M. Rangel
Thomas M. Rangel

THOMAS M. RANGEL
MY COMMISSION EXPIRES
June 24, 2001

Public Notices 003 | Public Notices 003 | Public Notices 003

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT
IMMIGRATION AND NATURALIZATION SERVICE
U.S. BORDER PATROL
AIRBOAT PATROLS ON THE RIO GRANDE,
DEL RIO SECTOR, TEXAS

The public is invited to comment on the Draft Environmental Assessment (EA) for the Immigration and Naturalization Service and U.S. Border Patrol's (USBP) proposed increase of USBP airboat patrols on the Rio Grande within the Del Rio Sector, Texas. The Draft EA will be available at the Val Verde Public Library 300 Spring Street, Del Rio, Texas, 78840 (830) 774-7595. Send written comments to Mr. Eric Verwers, U.S. Army Corps of Engineers, Fort Worth District, 819 Taylor Street, Room 3A28, Fort Worth, Texas 76012 or call Mr. Verwers at (817) 978-0202. Comments will be received until May 28, 2001.

Public Notices 003 | Public Notices 003 | Public Notices 003

Help Wanted 101

Help Wan

**"Drivers "
Start your engines!!**
Now hiring Company drivers & owner opd TEAMS to run SW Texas/MidWest & back. We've got freight - miles-exc pay & benefits pkg. Fleet owners welcome. Call Brian Kingen at AIR ROAD EXPRESS
800-899-3812

★★★★★
Drivers
WHAT A
WAITIN
Start Y
Career T
Learn To
BIG Truc
The BIG
No Cost
Qua
Call 1-800
★★★★★

Drilling hands needed for Northwest Webb County & Southern La Salle County. Drillers, derrickmen, motormen, and floormen. 7 & 7 with perdiem, bottom hole and safety bonus. Wages equal to top drilling contractor in Texas.
EXPERIENCED HANDS ONLY!
APPLY IN PERSON, call 956-948-5561 for appointment.

Team OTR
• If you nee
time
• Quality tim
family
• $800 To $9
• Great bene
• Retirement
• Annual pa
Call Sale
Eagle
1-800-3
School gradu
E.O.E. E

Make up to
$2,000.00.
Looking for enthu-

Professio
Sales Rep
with good

Exhibit 2

NOTICE OF AVAILABILITY

FINAL ENVIRONMENTAL ASSESSMENT
IMMIGRATION AND NATURALIZATION SERVICE
U.S. BORDER PATROL
AIRBOAT PATROLS ON THE RIO GRANDE,
DEL RIO SECTOR, TEXAS

The public is invited to comment on the Final Environmental Assessment (EA) for the Immigration and Naturalization Service and U.S. Border Patrol's (USBP) proposed increase of USBP airboat patrols on the Rio Grande within the Del Rio Sector, Texas. The Final EA will be available at the Val Verde Public Library --- 300 Spring Street, Del Rio, Texas, 78840 (830) 774-7595. Send written comments to Mr. Eric Verwers, U.S. Army Corps of Engineers, Fort Worth District, 819 Taylor Street, Room 3A28, Fort Worth, Texas 76012 or call Mr. Verwers at (817) 978-0202.

APPENDIX C
CORRESPONDENCE

GULF SOUTH RESEARCH CORPORATION
Post Office Box 83564 Baton Rouge, Louisiana 70884-3564 Telephone (225) 757-8088

FS
AFS
ALL
OA
FILE 57
NO. 906
DUE 6/15/01

May 14, 2001

Field Supervisor
Fish and Wildlife Service Ecological Department
10711 Burnet Road, Suite 200
Austin, TX 78758

Dear Field Supervisor:

Gulf South Research Corporation (GSRC) under supervision of the U.S. Army Corps of Engineers (USACE), Fort Worth District, Immigration and Naturalization Service (INS) Architect-Engineer Resource Center has prepared a Draft Environmental Assessment (DEA) for the US Border Patrol (USBP), Del Rio Sector. The DEA proposed addresses potential impacts of increasing the number of airboats used in patrols on the Rio Grande. The USBP currently uses two airboats and proposes to add another six airboats, which would enhance the effectiveness of the USBP and decrease the chances of immigrants drowning while trying to illegally enter the US.

The Draft EA has been distributed to Federal and state agencies and is available for review at the local library. Written comments can be sent to:

Mr. Eric Verwers, Assistant Director
INS A-E Resource Center
P.O. Box 17300
Fort Worth, Texas 76102

The deadline for receipt of comments is 28 April 2001. Thank you for your prompt attention and cooperation.

As an oversight, a draft copy of the EA was sent to an incorrect address. We would like to apologize for any inconvenience.

Sincerely,

Chris Ingram
Vice President

NO EFFECT FINDING
Based on our review of the project activity as proposed, it is not likely that federally listed species, or other important fish and wildlife resources will be impacted.
Date 16 May 01
Consultation # 2-15-01-I-564
Approved by E. Dan Whitehead
U.S. FISH and WILDLIFE SERVICE, AUSTIN, TX